

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1 1. (Currently Amended) A method for performing adaptive migration and execution, the
2 method comprising:
3 obtaining a plan generated by a planner executable in a computer;
4 adapting the plan to satisfy migration constraints; [[and]]
5 ~~starting~~ executing at least one move of a data chunk in the plan;
6 feeding back information relating to the execution of the at least one move to the planner;
7 and
8 modifying the plan by the planner in response to the information.

1 2. (Original) The method of claim 1, wherein the steps in the method are repeated until no
2 moves are pending.

1 3. (Original) The method of claim 2, further comprising:
2 waiting for all in-progress executions of moves to complete after no moves are pending.

1 4. (Original) The method of claim 1, further comprising:
2 waiting for a move to complete if the adaptation of the plan indicates no moves meet the
3 migration constraints.

1 5. (Currently Amended) The method of claim 1, further comprising:
2 estimating load value information; and
3 using the load value information to assist in ~~determining a modified~~ modifying the plan.

1 6. (Currently Amended) The method of claim 1, wherein adapting the plan comprises:
2 selecting at least one step from the following: pruning at least one move that ~~violate~~
3 violates a migration constraint; selecting a largest set of moves that do not violate a migration
4 constraint; and skipping a move that violates a migration constraint.

1 7. (Original) The method of claim 1, further comprising:
2 treating a data chunk as existing in an old location and new location while a move is in
3 progress.

1 8. (Currently Amended) The method of claim 7, ~~wherein the step of treating the data chunk~~
2 ~~comprises 1, further comprising:~~
3 pruning moves that violate an access rule when a move is in progress, wherein the pruned
4 moves are not selected for inclusion in the plan.

1 9. (Original) The method of claim 7, wherein the step of treating the data chunk comprises:
2 considering the data chunk as decreasing a per-node free space information at both the
3 old location and the new location when a move is in progress.

1 10. (Currently Amended) A method for performing adaptive migration and execution, the
2 method comprising:
3 obtaining a plan created by a planner executable in a computer;
4 determining all valid moves in the plan;
5 ~~starting executing~~ a valid move; ~~[[and]]~~
6 feeding back information relating to execution of the valid move to the planner; and
7 if at least one additional move is ~~moves are~~ required, ~~obtaining a modified~~ modifying the
8 plan after starting the valid move by the planner based on the information.

1 11. (Currently Amended) The method of claim 10, further comprising:
2 determining if an executor is available, wherein executing the valid move is performed by
3 the available executor.

1 12. (Original) The method of claim 10, wherein the steps in the method are repeated until no
2 moves are pending.

1 13. (Original) The method of claim 12, further comprising:
2 waiting for all in-progress execution of moves to complete after no moves are pending.

1 14. (Currently Amended) An article of manufacture, comprising:
2 a machine-readable medium having stored thereon instructions to:
3 obtain a plan;
4 adapt the plan to satisfy migration constraints; [[and]]
5 [[start]] execute at least one move of a data chunk in the plan;
6 modifying the plan based on feedback configuration information regarding in-progress
7 execution of the at least one move; and
8 execute another move in the modified plan.

1 15. (Currently Amended) An apparatus for adaptive migration, the apparatus comprising:
2 a planner configured to generate a migration plan based upon configuration information;
3 an adapter configured to receive the plan from the planner, to receive migration
4 constraints information, target configuration information and current configuration information,
5 and to transmit the configuration information to the planner; and
6 at least one executor configured to execute a move in the plan, wherein the configuration
7 information relates to execution of the move.

1 16. Cancelled)

1 17. (Currently Amended) The apparatus of 15, wherein the configuration information further
2 includes load information.

1 18. (Original) The apparatus of 15, further comprising:
2 a load estimator configured to estimate load information for use in determination of the
3 plan.

1 19. (Currently Amended) The apparatus of 18, wherein the configuration information
2 includes the estimated load information.

1 20. (Currently Amended) The apparatus of claim 15, wherein the adapter iteratively obtains
2 plans from the planner ~~a plan~~ until no moves are pending.

1 21. (Original) The apparatus of claim 20, wherein the adapter waits for all in-progress
2 executions of moves to complete after no moves are pending.

1 22. (Currently Amended) The apparatus of claim 15, wherein the adapter waits for a move to
2 complete if the ~~adaptation of the plan indicates~~ adapter determines that no moves meet the
3 migration constraints.

1 23. (Cancelled)

1 24. (Original) The apparatus of claim 15, wherein the adapter is configured to select at least
2 one step from the following: prune at least one move that violate a migration constraint; select a
3 largest set of moves that do not violate a migration constraint; and skip a move that violates a
4 migration constraint.

1 25. (Original) The apparatus of claim 15, wherein the adapter is configured to treat a data
2 chunk as existing in an old location and new location while a move is in progress.

1 26. (Original) The apparatus of claim 25, wherein the data chunk is treated by pruning
2 moves that violate an access rule when a move is in progress.

1 27. (Original) The apparatus of claim 25, wherein the data chunk is treated by considering
2 the data chunk as decreasing a per-node free space information at both the old location and the
3 new location when a move is in progress.

1 28. (Cancelled)

1 29. (New) The method of claim 1, further comprising:
2 executing at least a second move of a data chunk in the modified plan;
3 feeding back information relating to the execution of the at least second move to the
4 planner; and
5 further modifying the plan by the planner in response to the information relating to the
6 execution of the at least second move.

1 30. (New) The method of claim 1, wherein execution of the at least one move is performed
2 by an executor, the method further comprising:
3 waiting for the executor to complete the at least one move; and
4 determining whether another move is to be executed;
5 wherein modifying the plan is performed in response to determining that the another
6 move is to be executed.

1 31. (New) The method of claim 1, further comprising:
2 tracking the information relating to the execution of the at least one move by an adapter
3 that also adapts the plan to satisfy migration constraints,
4 wherein feeding back the information is performed by the adapter to the planner.

1 32. (New) The article of claim 14, wherein the machine-readable medium further contains
2 instructions to:
3 wait for an executor to complete execution of the at least one move; and
4 determine whether another move is to be executed;
5 wherein modifying the plan is in response to determining that another move is to be
6 executed.

1 33. (New) The article of claim 14, wherein the machine-readable medium further contains
2 instructions to:
3 estimate load information associated with the plan;
4 wherein modifying the plan is further based on the estimated load information.

1 34. (New) The apparatus of claim 15, wherein the adapter is configured to further track the
2 configuration information relating to the execution of the move and execution of other moves,
3 and wherein the planner is configured to iteratively modify the migration plan as the
4 tracked configuration information is repetitively fed back to the planner.